List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 12 (Cancelled)

13. (New) A pressure sensor, comprising:

a pressure measuring cell having an essentially cylindrical platform of a first diameter and a first thickness, and a measuring membrane of a second diameter and a second thickness, joined to an end face of the platform;

an elastic sealing ring of a third diameter and a third thickness, bearing against the membrane-containing end face of the pressure measuring cell; and

a support ring of a fourth, outer diameter, a fourth inner diameter and a fourth thickness, wherein:

said support ring supports the membrane-far, rear face of said pressure measuring cell;

said measuring cell is axially clamped between said elastic sealing ring and said support ring; and

the dimensions of said support ring are matched to the dimensions of said sealing ring and said pressure measuring cell in such a way that a radial deformation of the membrane-containing face caused by the axial clamping of said pressure measuring cell is so small, that the span error of the pressure sensor due to a reduction of the axial clamping force by at least 10% amounts to not more than 0.02%.

14. (New) The pressure sensor as claimed in claim 13, wherein:

the inner diameter of said support ring is chosen such that the span error in the case of a reduction of the clamping force by at least 20% amounts to not more than about 0.02%.

15. (New) A pressure sensor as claimed in claim 13, wherein:

the inner diameter of the support ring is chosen such that the span error in the case of a reduction of the clamping force by at least 10%, respectively at least 20%, amounts to not more than about 0.01%.

16. (New) The pressure sensor as claimed in claim 13, wherein:

axial clamping force amounts to between 350 N and 550 N.

17. (New) The pressure sensor as claimed in claim 13, wherein:

said platform and said measuring membrane are made of the same material, especially a ceramic material.

18. (New) The pressure sensor as claimed in claim 13, wherein:

said support ring is made of the same material as said platform.

19. (New) The pressure sensor as claimed in claim 13, wherein:

said support ring is connected fixedly to said platform.

20. (New) The pressure sensor as claimed in claim 13, wherein:

said support ring has at least the thickness of said platform.

21. (New) The pressure sensor as claimed in claim 13, further comprising:

a housing with a measuring cell chamber for receiving said pressure measuring cell, wherein:

said housing has an internal, axial bearing surface, which axially supports said sealing ring, and a threaded ring, which engages an internal thread in a wall of said measuring cell chamber and exerts an axial clamping force on the rear, measuring-cell-far side of said support ring.

22. (New) The pressure sensor as claimed in claim 21, further comprising:

means for minimizing the friction between said threaded ring and said support ring.

23. (New) The pressure sensor as claimed in claim 21, wherein:

the coefficient of static friction between said support ring and said threaded ring is less than 0.2.

24. (New) A method for the iterative optimizing of the dimensions of a support ring for a pressure sensor, comprising the steps of:

(i) determining a geometry for the support ring; (ii) calculating a first span change of the pressure sensor under a first axial clamping force; (iii) calculating a second span change of the pressure sensor under a second axial clamping force; (iv) ascertaining a span error by comparing the first span change with the second span change; (v) evaluating the span error; and (vi) varying the geometry of the support ring, and repeating the steps (ii) to (vi) until a suitable geometry for a sufficiently small span error is found.